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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

ORIGINAL
FILE

In the Matter of

Amendment of the Commission's
Rules to Establish New Personal
Communications Services

) GEN Docket No. 90-314
) ET Docket No. 92-100
)
) RM-7140, RM-7175, RM-7617,
) RM-7618, RM-7760, RM-7782,
) RM-7860, RM-7977, RM-7978,
) RM-7979, RM-7980
)
) PP-35 through PP-40, PP-79
) through PP-85

COMMENTS OF THE NORTH AMERICAN TELECOMMUNICATIONS ASSOCIATION

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COMMENTS OF THE NORTH AMERICAN TELECOMMUNICATIONS ASSOCIATION

The North American Telecommunications Association ("NATA") hereby submits comments in response to the Commission's Notice of Proposed Rule Making and Tentative Decision, FCC 92-333, released August 14, 1992.

NATA is a trade association composed of more than 600 manufacturers, suppliers, distributors, and users of business telecommunications equipment. Founded in 1970, NATA exists to promote competitive markets and healthy sales and support channels for users of business and public communications products and services. NATA has actively participated in FCC proceedings affecting customer premises equipment markets. NATA promotes regulatory policies that encourage broad participation by private companies in the telecommunications equipment and services distribution marketplace. NATA's members are in the forefront of efforts to develop and market wireless PBXs, key systems, and other wireless business communications products and services.

NATA's comments focus primarily on the provisions of the Notice addressing unlicensed PCS devices. Regarding licensed

services, NATA reserves the right to respond to specific issues addressed by commenting parties in NATA's reply comments.

SUMMARY

NATA supports the Commission's proposal to authorize unlicensed PCS devices and to allocate spectrum for such devices. The need for spectrum for unlicensed wireless office telephone systems is clear. Today, Americans can use wireless cellular and cordless telephone products at home and "on the road." The only place where Americans do not have satisfactory wireless access is at the workplace. Authorizing unlicensed, user controlled wireless office communications systems is the way to fill this void. History shows that the need for "wired" office communications was not adequately served until users were given the option to purchase their own systems on an unregulated basis. Wireless office communications are no different.

The Commission must allocate more than the 20 MHz proposed for unlicensed systems. The record indicates that combined voice and data spectrum requirements for the unlicensed office communications market are in the neighborhood of 80 MHz. The Commission must ensure that there is adequate spectrum for unlicensed office communications, particularly since this market is almost totally unserved at present.

The Commission should not unnecessarily foreclose experimentation in this market by forcing technologies to fit into rigid channelization schemes. The Commission should carefully

evaluate efforts to accommodate different technologies through the use of an "etiquette." However, due to the differences between voice and data communications, NATA continues to believe that separate voice and data allocations should be provided.

Finally, the Commission should take steps to clear the spectrum allocated for unlicensed PCS. Any interference problems cannot be expected to be resolved through relocations negotiated by individual unlicensed users. Therefore, the Commission should consider authorization and funding of a collective industry entity to negotiate with fixed microwave licensees and, where necessary, institute involuntary relocation proceedings. The Commission should establish procedures for conducting such proceedings on a collective basis.

I. UNLICENSED PCS IS IN THE PUBLIC INTEREST

NATA supports the Commission's proposal to authorize unlicensed PCS devices and to allocate spectrum for such devices. The allocation of spectrum for unlicensed PCS devices is critical because there is an immediate need for a reliable source of spectrum which can be used for wireless office telephone systems.

The public interest benefits of allocating spectrum to open up the wireless office telephone market are clear. Adult Americans spend the overwhelming majority of their time in three places -- at home, "on the road," and at the workplace. In the first two places, previous Commission actions providing for cordless residential telephones and cellular telephones have allowed

consumers to reap the benefits of "untethered" access to telephone service.¹ The only one of the three where these benefits are not yet available is the workplace.² By allocating sufficient spectrum for the specific purpose of unlicensed personal communications, the Commission will at long last make it possible to bring the benefits of "untethered" access to the more than 60 million telephone users in office and other workplace environments.

As the Commission recognizes, an unlicensed allocation will allow customers to select from a variety of wireless product designs and technologies. Such real-life market experience will allow the evolution of appropriate technologies for PCS.

Equally important, unlicensed allocations will stimulate the immediate development of the wireless office systems market sector by making it possible for products to be marketed directly to the general public "without the delays associated with the licensing of a radio service." Notice, ¶42. Studies indicate that, when reliable spectrum is made available, the market for wireless office telephones will develop very rapidly. For example, Telocator

¹The phenomenal market success of cordless residential telephones and cellular telephones offers indisputable proof that consumers place a high value on the convenience of such "untethered" access to telephone service.

²As discussed in NATA's previous submissions in this docket and Docket No. 92-9, the lack of a reliable spectrum allocation has had a chilling effect on the process of designing and marketing wireless business telephone systems. While a number of manufacturers are experimenting with the design of wireless office systems using the spread spectrum frequencies available on a secondary use basis under Part 15, and a few manufacturers have even begun to bring such systems to the market, the vulnerability of such systems to interference is having a significant dampening effect on the development of the market.

forecasts that unlicensed wireless office telephones will serve as many as 16 million users within five years after spectrum authorization. Telocator, PCS Demand Forecast, May 1, 1992.

In this market for premises-based communications systems, history shows that allowing unlicensed, unregulated customer-controlled systems is necessary to achieve the purposes of the Communications Act. In the analogous "wireline" business systems market, technological development and market growth stagnated as long as the customers' use of premises communications systems was controlled by a "licensed" network service provider -- the Bell System. After the Commission opened the customer premises equipment market to competition, and did away with tariff provisions restricting the use of customer-owned systems,³ market growth accelerated dramatically, and so did technological innovation, product diversity, and consumer choice. A similar phenomenon can be expected if the Commission acts to open up the market for unlicensed wireless premises systems. In the premises equipment sector, history has demonstrated that the presence of a

³See e.g., Carterfone, 13 FCC 2d 420, recon den. 14 FCC 2d 571 (1968); Telerent Leasing Corp. et al., 45 FCC 2d 204 (1974), aff'd sub. nom. North Carolina Utilities Commission v. FCC, 537 F.2d 787 (4th Cir.), cert. den., 429 U.S. 1027 (1976) (NCUC I); Mebane Home Telephone Co., 53 FCC 2d 473 (1975), aff'd Mebane Home Telephone Co. v. FCC, 535 F.2d 1324 (D.C. Cir. 1976); First Report and Order in Docket No. 19528, 56 FCC 2d 593 (1975); on reconsideration, 57 FCC 2d 1216 (1976), 59 FCC 2d 716 (1976) and 59 FCC 2d 83 (1976); Second Report and Order, 58 FCC 2d 736 (1976); aff'd sub. nom. North Carolina Utilities Commission v. FCC, 552 F.2d 1036 (4th Cir.), cert. den. 434 U.S. 874 (1977) (NCUC II); Phase II Final Decision and Order in Docket No. 19129, 64 FCC 2d 1 (1977); Implications of the Telephone Industry's Primary Instrument Concept, 68 FCC 2d 1157 (1978).

licensed service provider is not necessary and that regulatory restrictions on the use of customer-owned systems serve to inhibit the natural development of the market.

Unlike licensed PCS, there are no difficult licensee-selection or market structure issues to be resolved before authorizing the use of unlicensed PCS systems. Therefore, NATA urges the Commission to expeditiously adopt technical rules and authorize unlicensed PCS activity without waiting for all the decisions to be made on issues related to licensed PCS.

II. MORE THAN 20 MHZ MUST BE ALLOCATED TO UNLICENSED PCS

The Commission's proposal to allocate only 20 MHz of spectrum to unlicensed PCS seriously underestimates the importance of unlicensed operations and the amount of spectrum that will be necessary to satisfy the demand for unlicensed use. Estimates of the spectrum requirement for unlicensed office telephone systems alone (i.e., without considering the needs of unlicensed data communications systems) are in the vicinity of 40 MHz, with some estimates exceeding 50 MHz. See Comments of ROLM in Docket No. 92-9, filed May 28, 1992, Attachment 1 (45 MHz); Comments of Rose Communications, Inc., Docket No. 92-9, filed June 5, 1992, at 10-11 (40 MHz); Comments of the Ericsson Corporation, Docket No. 92-9, filed June 5, 1992, at 6-7 (50 MHz); Telocator, Spectrum Estimates for PCS, May 28, 1992 (up to 54 MHz). Representatives of data communications system interests similarly have estimated that at least 40 MHz is required for data communications systems

alone. Putting these estimates together results in a combined unlicensed PCS spectrum requirement of roughly 80 MHz, or four times the amount that the Commission has proposed.

The Commission's 20 MHz proposal for unlicensed PCS is especially inadequate when compared with the 90 MHz of spectrum proposed for licensed PCS. As currently conceived, licensed PCS services would largely supplement and compete with existing cellular services operating at 824-849 and 869-894 MHz. Thus, the market that would be served by licensed PCS is already being served at present by services that consume 50 MHz of spectrum. Unlicensed PCS, by contrast, would serve a market for wireless office telephony and wireless LANs which is presently unserved by any established products or services.⁴

To meet the foreseeable demand, the record shows that in the neighborhood of 80 MHz will be required for unlicensed voice and data systems. This amount could be allocated from the 220 MHz which has been earmarked for emerging technologies while still leaving 140 MHz for licensed PCS services and other emerging technologies services. Even if the Commission is unwilling to assign the full 80 MHz at this time, the Commission should at least

⁴To the extent that licensed PCS services do not compete with cellular, they would compete with unlicensed PCS devices. Just as local telephone companies today provide a network-based Centrex service in direct competition with premises-based PBX systems, it has been predicted that licensed PCS service providers will offer a wireless Centrex service to compete with wireless PBX systems. It would be particularly unreasonable to allocate four times as much spectrum to a licensed wireless Centrex services as to unlicensed PBX and LAN systems that must compete with wireless Centrex.

enhance the initial allocation beyond the clearly inadequate 20 MHz currently proposed. At a minimum, the Commission must add the adjacent 15 MHz of spectrum (1895-1910 MHz), which is not currently proposed to be assigned, to the 20 MHz (1910-1930 MHz) currently proposed for unlicensed PCS.

III. THE PROPOSED DIVISION OF UNLICENSED PCS SPECTRUM AND ASSOCIATED TECHNICAL RULES SHOULD BE MODIFIED

The Commission proposes to divide its proposed 20 MHz unlicensed PCS allocation into three blocks: (1) a 10-MHz block for broadband technologies; (2) a 5-MHz block for mid-size band technologies, divided into four 1.25 MHz channels; and (3) a 5-MHz block for narrowband technologies, divided into fifty 100 kHz channels. Notice, ¶44. Alternatively, the Commission suggests overlaying these three channelization schemes on each other, and solicits other proposals for channelizing the unlicensed PCS allocation.

NATA questions whether there is a need for such detailed segmentation and channelization of the unlicensed PCS spectrum based on the type of technology used. For wireless voice systems, manufacturers are experimenting with a variety of different technologies and channel sizes, and additional technologies may yet be developed. Given that one of the purposes of the unlicensed PCS allocation is to allow experimentation in the marketplace (Notice, ¶42), the Commission should not unnecessarily foreclose such experimentation by forcing technologies to fit into individuated

spectrum blocks and channelization schemes.⁵ NATA understands that groups such as the WINForum are working to develop an "etiquette" that would allow unlicensed premises systems based on diverse technologies to share the same spectrum. The Commission should carefully evaluate the results of these efforts, and if feasible should adopt rules reflecting such an etiquette. Such an approach will avoid bogging down these proceedings in disputes over whose technologies should be favored by the Commission's rules. Since there is no apparent need for the Commission to adopt one of the competing wireless technologies as a standard for unlicensed systems at this time, NATA urges the Commission to make its technical rules as liberal as possible, so that the choice of technologies can be made by customers in the marketplace rather than in regulatory proceedings.

As stated in earlier comments in this Docket, NATA does believe that there should be separate (but contiguous) unlicensed allocations for voice and high-speed data devices. This separation is necessary because of the disparate characteristics of these two

⁵Even assuming that such segmentation and channelization were appropriate, it is not clear on what basis the Commission should adopt a channelization scheme that would favor certain technologies while excluding others. For example, the 1.25 MHz channel bandwidth selected by the Commission for one of the proposed 5-kHz spectrum blocks would accommodate some emerging wireless technologies but would apparently exclude or hinder the use of technology based on Europe's digital cordless or DECT standard, which is based on a 1.728 MHz bandwidth. There may be analogous problems with the 100-kHz bandwidth proposed for the other proposed 5-kHz block. Similarly, the proposed power output requirements associated with these channelization schemes (Notice, ¶122) appear unnecessarily restrictive and could exclude or hinder the use of certain technologies being developed by equipment manufacturers.

types of transmissions. Voice communication generally requires a continuously open two-way channel, while data communication tends to be bursty and is more tolerant of discontinuities in transmission. In addition, voice communication generally is more tolerant of transmission errors than data communication. Therefore, we are not confident that "etiquettes" which are under development can accommodate sharing of frequencies by voice and data communications systems as efficiently as they can accommodate sharing between voice systems or between data systems. Therefore, NATA continues to believe that the better course is to segment the unlicensed PCS allocation into separate voice and data allocations. The allocation for voice should be at least as large as, if not larger than, the allocation for data systems.⁶

IV. MECHANISMS FOR CLEARING THE SPECTRUM ALLOCATED TO UNLICENSED PCS SHOULD BE ADOPTED

NATA agrees with the Commission's finding that unlicensed services will require relatively clear spectrum. Notice, ¶43, n. 30. When facilities are controlled by a relatively large number of unlicensed users as opposed to a relatively small number of licensed service providers, any problems posed by interference loom larger in relation to the size and cost of individual systems. If interference problems must be addressed individually by each system owner, then any significant interference problems that do arise

⁶Within the office environment, while the data communications share of traffic is growing, voice communications continues to predominate just as it does in the public network.

undoubtedly would have a major deterrent effect on users' willingness to purchase wireless systems. Therefore, NATA appreciates the Commission's effort to locate a relatively lightly loaded band of spectrum for unlicensed PCS operations, so that those operations will have a minimal impact on -- and will be minimally impacted by -- the private fixed microwave community. Notice, ¶43. NATA hopes that the Commission's optimism is justified. At the same time, it appears prudent for the Commission to take into account the possibility that "under certain conditions it may not be feasible to eliminate the risk of potential interference to Part 94 operations without completely restricting PCS use." Id., ¶124.

Therefore, we believe it is necessary and appropriate for the Commission to take certain steps to clear the spectrum allocated for unlicensed PCS, beyond those measures taken with respect to licensed PCS or emerging technologies generally. Specifically, NATA supports the Commission's proposal to require a somewhat more restrictive fixed microwave licensing policy with respect to frequencies allocated for unlicensed PCS than the general policy adopted for frequencies allocated to emerging technologies generally. Since interference problems will be particularly difficult to resolve cost-effectively in the case of unlicensed operations, it is especially important to limit the number of fixed microwave facilities with which unlicensed PCS users will have to contend.

To the extent that sharing of spectrum between unlicensed PCS users and the fixed microwave facilities that will remain will pose interference problems, steps must be taken to address these problems. Given the special difficulties of system-by-system relocation negotiations in the frequencies allocated for unlicensed PCS, the Commission should take into account that there may be a need for massive relocation of all or almost all fixed microwave users currently occupying the frequencies allocated to unlicensed PCS. NATA agrees with the Commission that there may be a need for some form of collective entity that can engage in negotiations and, where necessary, invoke involuntary relocation procedures on behalf of prospective unlicensed PCS users. Notice, ¶125. NATA believes the Commission should consider establishing a funding mechanism that can be used by an authorized collective industry entity to fund negotiated settlements with private microwave users who must be relocated from the bands allocated to unlicensed PCS.

Assuming that there is developed an industry entity which is funded and authorized to handle relocation negotiations on behalf of prospective PCS users, such an entity may not be able -- within the constraints of its charter -- to negotiate voluntary settlements that are satisfactory to every individual fixed microwave licensee.

Therefore, the question of involuntary relocation must be addressed. The Commission's Order in Docket No. 92-9 recently describes a procedure for involuntary relocation of fixed microwave licensees. Redevelopment of Spectrum to Encourage Innovation in

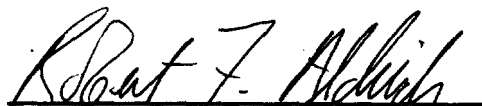
the Use of New Telecommunications Technologies, First Report and Order and Third Notice of Proposed Rule Making, ET Docket 92-9, FCC 92-437, released October 16, 1992, ¶24 ("Emerging Technologies Order"). In this docket, the Commission requests comment on how this process should be implemented specifically with regard to PCS services. Notice, ¶47.

In order to minimize the administrative or "transaction" costs involved in such involuntary relocation proceedings, NATA urges the Commission to develop a procedure for making determinations on a collective basis as to whether the conditions for involuntary relocation -- e.g., payment of compensation, identification of alternative frequencies, completion and testing of alternative facilities, etc. -- have been satisfied. It may be that negotiated rulemaking or other alternative dispute resolution procedures will be beneficial in this process. However, in order for any procedure to work, the Commission will have to take an active supervisory role.

CONCLUSION

The Commission should authorize spectrum for unlicensed wireless premises systems in accordance with the foregoing comments.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Robert F. Aldrich", written over a horizontal line.

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing Comments of the North American Telecommunications Association was served this 9th day of November, 1992, by hand-delivery, to the following persons at the addresses listed below:

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